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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/825,578 | 04/03/2001 | Toshiaki Motonaga | 529 | 9940 |

7590 06/03/2003

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| EXAMINER |
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ROSASCO, STEPHEN D

| ART UNIT | PAPER NUMBER |
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1756

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,578

Applicant(s)

MOTONAGA ET AL.

Examiner

Stephen Rosasco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> | 6) <input type="checkbox"/> Other: |

Detailed Action

The disclosure is objected to because of the following informalities: there are numerous spelling and grammatical errors present, e.g., page 2, lines 2-3; page 4, end of second paragraph, "transmittance to also realized"; page 5, second full paragraph, "usage of photomask, these change,"; claims 1-8, lines 1-2, "having each having"; claims 2, 3, line 6, "surface of film" .

Appropriate correction is required.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite a temperature range of, e.g., 200-500. However, it is unclear if this is centigrade degrees.

Claims 9, 18, 19 are multiple dependent claims based on other multiple dependent claims which is not allowed.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyashita et al. (5,738,959).

The claimed invention is directed to a halftone phase shifting photomask and blank, having a halftone phase shifting film containing at least chromium and fluorine on a transparent

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substrate, characterized in that the halftone phase shifting film is heat-treated at a temperature between 250 and 500 so that a change of the optical property of the film produced by the application of excimer laser for exposure to the film is decreased.

Miyashita et al. teach a halftone phase shift photomask having on a transparent substrate a halftone phase shift layer which includes at least one layer composed mainly of a chromium compound, wherein said chromium compound contains at least fluorine atoms in addition to chromium atoms.

Miyashita et al. also teach that the halftone phase shift photomask obtained as in Example 2 was heated for 1 hour at 200 degree C in a convection oven having an air atmosphere. As a result, the transmittance for light of wavelength 248 nm of the halftone phase shift portion changed from about 5% to about 8%. The halftone phase shift photomask was also practicable in terms of all requirements, i.e., the dimensional accuracy of the etched portions, cross-sectional configuration, film thickness distribution, transmittance distribution, adhesion of the film to the substrate, etc., at any stage of the transmittance changing process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Rosasco whose telephone number is (703) 308-4402.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661. Fax (703) 872-9310 Before Finals; 872-9311 After Finals.

A handwritten signature in black ink, appearing to read 'S. Rosasco', with a stylized flourish at the end.

S. Rosasco
Primary Examiner
Art Unit 1756

S. Rosasco
5/2803